(No Model.)

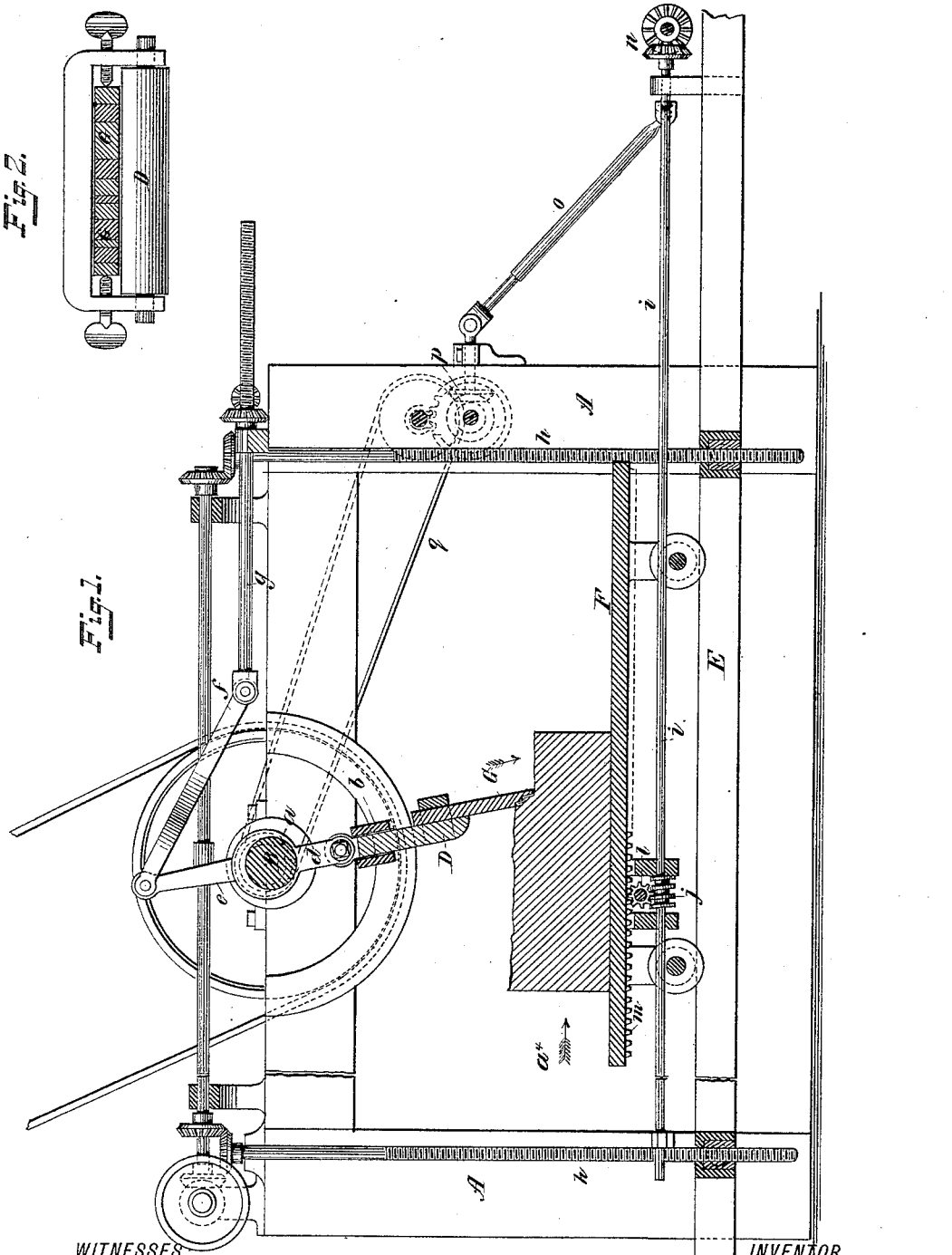
E. FOERSTER.

PROCESS OF CUTTING STONE.

No. 419,194. Patented Jan. 14, 1890.

Fig. 2.

Fig. 1.



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PROCESS OF CUTTING STONE.

SPECIFICATION forming part of Letters Patent No. 419,194, dated January 14, 1890.

Application filed January 5, 1889. Serial No. 295,502. (No model.)

To all whom it may concern:

Be it known that I, EMANUEL FOERSTER, of the city of New York, in the county and State of New York, have invented an Improved Process of Cutting Stone, of which the following is a specification, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical longitudinal sectional elevation of a stone-cutting machine by which my process can be carried out, and Fig. 2 is a cross-sectional view of the reciprocating tools which I use in my process.

In carrying out my invention I feed the stone to be cut from behind the cutting-tool or in the direction in which the cutting-tool moves to cut the stone.

In the accompanying drawings I have shown means for carrying out my process.

In said drawings, the letter A represents the frame of a stone-cutting machine, at the upper part of which is suitably journaled a horizontal shaft B, that is provided with an eccentric *a*. The shaft B may be rotated in any suitable manner.

D is a sliding reciprocating tool-carrying plate that is guided in movable guides *b*, carried by the frame A. The reciprocating plate D is pivotally connected by straps *d* with the eccentric *a*, whereby when said eccentric rotates the plate D will be reciprocated.

e is an arm conected with the strap *d*, which arm is also pivotally connected by a link *f* with a sliding rod *g*, whereby when the rod *g* is moved the reciprocating plate D will be swung or raised and lowered.

E is a frame or track upon which a stone-carriage F is adapted to move.

The frame E is adapted to be raised and lowered and is supported by screw-rods *h* at the sides of the machine, which are turned by suitable means, so as to raise and lower the track or frame E and thereby the stone-carriage F.

i is a longitudinal shaft that extends parallel with the track or frame E, and is connected by gearing *j l m* with the stone-carriage, so that as said shaft is rotated the stone-carriage will be moved longitudinally. The shaft *i* is connected by gearing *n*, *o*, *p*, and *q* with the main shaft B of the machine, whereby the shaft *i* is driven.

The above construction and arrangements of parts are similar to those shown in Letters Patent of the United States No. 392,601, granted to me November 13, 1888, and I therefore refer to such patent for a more particular and detailed description of the construction and operation of the before-mentioned stone-cutting machine; but it is evident that the reciprocating plate D may be actuated and the stone-carriage F raised and lowered and moved longitudinally by means other than that shown herein, if desired.

G represents the cutting-tool, which is carried by the reciprocating plate D in suitable manner.

In cutting the stone by my process, and also in order that the tool will not chip or break off the stone, as is done with stones that are fed toward the tool, I move the stone from under the tool, or, in other words, I move the stone in the direction in which the cutting-tool is moved to cut. For instance, suppose the cutting-tool G to be moved in the direction of the arrow in Fig. 1. To dress the stone, the stone is moved in substantially the same direction as indicated in said figure by the arrow a^4. When setting the stone to be cut, the stone is first placed under and behind the tool, and is then moved toward the tool in the direction of the arrow a^4 or of the cutting movement of the tool, so that the edge of the stone will first be encountered by the tool. As the tool is reciprocated and the stone is moved in the direction of the arrow a^4 the tool will cut or dress the stone that is fed to it from beneath or behind, thereby leaving a dressed edge on the stone in front of the tool, as shown. As the tool does not encounter a mass of stone in its front, but rather shaves the stone off from behind, the stone will not be chipped or broken, but an even cutting will be effected. There being no part of the stone to be cut in front of the tool, there will be no chipping of the stone.

Having now described my invention, what I claim is—

The process of dressing or cutting stone herein described, which consists in feeding the stone to the reciprocating tool in the direction of the cutting stroke of the said reciprocating cutting-tool, substantially as specified.

EMANUEL FOERSTER.

Witnesses:
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